## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE Group Art Unit - Unknown

In re

Patent Application of

James W. Schumm, et. al.

Serial No.: Unknown

Filed: April 20, 2001

Examiner: Unknown

"MULTIPLEX AMPLIFICATION OF SHORT

TANDEM REPEAT LOCI"

I, <u>liane J. Frauchiger</u>, hereby certify that this correspondence is being deposited with the US Postal Service as Express Mail Post Office to Addressee Serial No. EL453985016US addressed to Assistant Commissioner for Patents, BOX PATENT APPLICATION, Washington, D.C. 20231, on the date of my signature.

1 20 2001

Date of Signature

## SEQUENCE LISTING STATEMENT

Assistant Commissioner for Patents BOX PATENT APPLICATION Washington, D.C. 20231

Sir:

The paper copy of the Sequence Listing in the patent application transmitted herewith, is identical to the computer readable copy of the Sequence Listing in U.S. Patent Application Serial No. 08/316,544, filed September 30, 1994. In accordance with 37 CFR 1.821(e), please use the computer readable form filed in that application as the computer readable form for the instant application.

It is understood that the U.S. Patent and Trademark Office will make the necessary change in application number and filing date for the instant application. A paper copy of the Sequence Listing was included in the originally-filed specification in the instant application.

Date: April 20, 2001

Docket No.: 016026-9238 Michael Best & Friedrich LLP One South Pinckney Street P. O. Box 1806 Madison, WI 53701-1806 (608) 257-3501 Grady J. Frenchic Reg. No. 29,018

Respectfully submitted

## SEQUENCE LISTING

- (1) GENERAL INFORMATION:
  - (i) APPLICANT: Schumm, James W.
    Sprecher, Cynthia J.
    Lins, Ann M.
  - (ii) TITLE OF INVENTION: MULTIPLEX AMPLIFICATION OF SHORT TANDEM REPEAT LOCI
  - (iii) NUMBER OF SEQUENCES: 32
  - (iv) CORRESPONDENCE ADDRESS:
    - (A) ADDRESSEE: Ross & Stevens, S.C.
    - (B) STREET: P. O. Box 2599
    - (C) CITY: Madison
    - (D) STATE: Wisconsin
    - (E) COUNTRY: U.S.A.
    - (F) ZIP: 53701-2599
    - (v) COMPUTER READABLE FORM:
      - (A) MEDIUM TYPE: Floppy disk
      - (B) COMPUTER: IBM PC compatible
      - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
      - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
  - (vi) CURRENT APPLICATION DATA:
    - (A) APPLICATION NUMBER:
    - (B) FILING DATE:
    - (C) CLASSIFICATION:
  - (viii) ATTORNEY/AGENT INFORMATION:
    - (A) NAME: Sara, Charles S.
    - (B) REGISTRATION NUMBER: 30,492
    - (C) REFERENCE/DOCKET NUMBER: 34506.022
    - (ix) TELECOMMUNICATION INFORMATION:
      - (A) TELEPHONE: 608-257-5353
      - (B) TELEFAX: 608-257-9175
  - (2) INFORMATION FOR SEQ ID NO:1:
    - (i) SEQUENCE CHARACTERISTICS:
      - (A) LENGTH: 20 base pairs
      - (B) TYPE: nucleic acid
      - (C) STRANDEDNESS: single
      - (D) TOPOLOGY: linear
    - (ii) MOLECULE TYPE: DNA (genomic)
    - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

(2) INFORMATION FOR SEQ ID NO:2:	
<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 20 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:	
AATCTGGGCG ACAAGAGTGA	20
(2) INFORMATION FOR SEQ ID NO:3:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear  (ii) MOLECULE TYPE: DNA (genomic)  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:	
GGAGCAGTCC TAGGGCCGCG CCGT	24
(2) INFORMATION FOR SEQ ID NO:4:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:	
GTGACAGAGG GAGACTCCAT TAAA	24
(2) INFORMATION FOR SEQ ID NO:5:	
<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 24 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	
(ii) MOLECULE TYPE: DNA (genomic)	

	AACCTGAGTC TGCCAAGGAC TAGC				
	(2)	INFO	RMATION FOR SEQ ID NO:6:		
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear		
		(ii)	MOLECULE TYPE: DNA (genomic)		
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:6:		
	TTC	CACAC	AC CACTGGCCAT CTTC	24	
mile divide ding	(2)	INFO	RMATION FOR SEQ ID NO:7:		
The state of the s		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 20 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear		
		(ii)	MOLECULE TYPE: DNA (genomic)		
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:7:		
	GCA	GGTAC	TT AGTTAGCTAC	20	
	(2)	INFO	RMATION FOR SEQ ID NO:8:		
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 20 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear		
		(ii)	MOLECULE TYPE: DNA (genomic)		
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:8:		

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

TTACAGTGAG CCAAGGTCGT

	(2)	INFO	RMATION FOR SEQ ID NO:9:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:9:	
	CCA	GAAG'	TT GAGGCTGCAG TGAA	24
	(2)	INFO	RMATION FOR SEQ ID NO:10:	
district district district		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
:		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:10:	
	TTG	GAGTC	GC AAGCTGAACT AGCG	24
	(2)	INFO	RMATION FOR SEQ ID NO:11:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:11:	
	GAG	GTTGC	AC TCCAGCCTTT GCAA	24
	(2)	INFO	RMATION FOR SEQ ID NO:12:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	

		(X1)	SEQUENCE DESCRIPTION: SEQ ID NO:12:	
	TTCC	CTGAA'	TC ATCCCAGAGC CACA	24
	(2)	INFO	RMATION FOR SEQ ID NO:13:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 20 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:13:	
	TGAG	GTGG'	TG TACTACCATA	20
a service of the serv	(2)	INFO	RMATION FOR SEQ ID NO:14:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 20 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
ži		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:14:	
	GAT	CATGC	CA TTGCACTCTA	20
	(2)	INFO	RMATION FOR SEQ ID NO:15:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 25 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:15:	
	GTA	GTATO	AG TTTCATAGGG TCACC	25

(2) INFORMATION FOR SEQ ID NO:16:	
<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 24 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:	
CAGTTCGTTT CCATTGTCTG TCCG	24
(2) INFORMATION FOR SEQ ID NO:17:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:	
GCTGTTAATT CATGTAGGGA AGGC	24
(2) INFORMATION FOR SEQ ID NO:18:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:	
GTAGTCCCAG CTACTTGGCT ACTC	24
(2) INFORMATION FOR SEQ ID NO:19:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: DNA (genomic)	

		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:19:	
	ATGC	CACA	SA TAATACACAT CCCC	24
	(2)	INFO	RMATION FOR SEQ ID NO:20:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:20:	
	CTC	rccag	AA TAGTTAGATG TAGG	24
	(2)	INFO	RMATION FOR SEQ ID NO:21:	
dan di dan		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
1 <u>1</u> 2		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:21:	
	GCT	CGAA	GGG TCCTTGTAGC CGGG	24
	(2)	INF	ORMATION FOR SEQ ID NO:22:	
		(i	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
		(ii	) MOLECULE TYPE: DNA (genomic)	
		(xi	) SEQUENCE DESCRIPTION: SEQ ID NO:22:	
	GA'	TAGGT	GGG GGTGCGTGGA GGAT	24

(2)	INFOR	RMATION FOR SEQ ID NO:23:	
	(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
	(ii)	MOLECULE TYPE: DNA (genomic)	
	(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:23:	
CTG	ACCAA	GG ATAGTGGGAT ATAG	24
(2)	INFO	RMATION FOR SEQ ID NO:24:	
	(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 23 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
	(ii)	MOLECULE TYPE: DNA (genomic)	
	(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:24:	
GGT	AACTG.	AG CGAGACTGTG TCT	23
(2)	INFO	RMATION FOR SEQ ID NO:25:	
	(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
	(ii)	MOLECULE TYPE: DNA (genomic)	
	(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:25:	
GGT	TGTAA	GC TCCATGAGGT TAGA	24
(2)	INFO	RMATION FOR SEQ ID NO:26:	
	(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 25 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
	(ii)	MOLECULE TYPE: DNA (genomic)	

	TTGA	AGCAC'	TT ACTATGTGCC AGGCT	25
	(2)	INFO	RMATION FOR SEQ ID NO:27:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:27:	
	GTG	GCTG.	AA AAGCTCCCGA TTAT	24
	(2)	INFO	RMATION FOR SEQ ID NO:28:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
8:		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:28:	
	ATT	CAAAG	GG TATCTGGGCT CTGG	24
į. į	(2)	INFO	RMATION FOR SEQ ID NO:29:	
		(i)	SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear	
		(ii)	MOLECULE TYPE: DNA (genomic)	
		(xi)	SEQUENCE DESCRIPTION: SEQ ID NO:29:	
	ACT	GGCAC	CAG AACAGGCACT TAGG	24

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

(2) INFORMATION FOR SEQ ID NO:30:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 24 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:	
GGAGGAACTG GGAACCACAC AGGT	24
(2) INFORMATION FOR SEQ ID NO:31:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 29 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:	
GAAAGCCCTA GTGGATGATA AGAATAATC	29
(2) INFORMATION FOR SEQ ID NO:32:	
<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 30 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	
(ii) MOLECULE TYPE: DNA (genomic)	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:	
GGACAGATGA TAAATACATA GGATGGATGG	30